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A new class of β-lactam antibiotics active against drug-sensitive and drug-resistant *Mycobacterium tuberculosis*

Monika I Konaklieva[1], **Rostislav Kuskovsky**[1], **Kriti Arora**[2], **Helena I Boshoff**[2] and **Clifton E Barry**[2]
[1]American University, USA
[2]NIAID Tuberculosis Research Section, USA

We have designed, synthesized, and tested monocyclic β-lactams that carry aryl-thioether group at C4. These lactams have shown good intrinsic activity against serine β-lactamase producing *Mycobacterium tuberculosis* H37Rv (Mtb). Some of the compounds have demonstrated minimal inhibitory concentration (MIC) as low as 6.25 μg/ml in 7H9 and 0.19 μg/ml in GAST. Our investigations indicate that these compounds are cidal to both replicating and non-replicating persistent Mtb. These compounds have also shown activity against multi-drug resistant strains of *M. tuberculosis*. Therefore, they are promising candidates for lead discovery. Mechanism of action and target identification studies are currently underway.

Biography

Monika I Konaklieva has completed her PhD in Chemistry from SUNY Buffalo in 1997, and became a visiting professor in Medicinal Chemistry at Midwestern University, Chicago, Illinois (1997-1999). She is currently an associate professor at the American University. She has published more than 40 papers in reputed journals and has been serving as an Editorial Board Member of several chemistry journals publishing in the areas of organic and medicinal chemistry.

mkonak@american.edu

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